

In the Claims

Claims are amended as follows:

1. (Previously Presented) A method of transporting a supercarrier signal over a network span, the method comprising the steps of:

transmitting said supercarrier signal, including messaging information, using a first protocol;

transparently demultiplexing said supercarrier signal into a plurality of trib signals;

transmitting said trib signals over said network span using a second protocol;

whereby the messaging information required to maintain said first protocol is included in said trib signals; and

after the transmission over the network span, transparently remultiplexing the trib signals into the supercarrier signal including the messaging information.

2. (Original) A method as claimed in claim 1, wherein the messaging information is used to transparently multiplex the trib signals into the supercarrier signal.

3. (Currently Amended) A method as claimed in ~~claims~~ claim 1, wherein each trib signal is multiplexed from a plurality of basic signals.

4. (Original) A method as claimed in claim 1, wherein the messaging information includes both essential messaging information and desirable messaging information.

5. (Previously Presented) Apparatus for transporting a supercarrier signal including messaging information, received using a first protocol; over

a network span comprising a plurality of low bit rate network sections for transporting a plurality of trib signals using a second protocol; the apparatus having:

a transparent demultiplexer coupled to receive said supercarrier signal and demultiplex said supercarrier signal into said trib signals for transmission over said network span;

wherein said demultiplexer includes means for inserting into said plurality of trib signals the messaging information required to maintain said first protocol, and

a multiplexer connected between said network span and said network, for transparently remultiplexing the trib signals into the supercarrier signals including the messaging information.

6. (Canceled)

7. (Currently Amended) Apparatus as claimed in ~~claims~~ claim 5, wherein the information required to maintain the first protocol is extracted from the trib signals.

8. (Original) Apparatus as claimed in claim 5, wherein the trib signals may pass in both directions along the network span.

9. (Canceled)

10. (Currently Amended) A transparent demultiplexer comprising:

an input for receiving a supercarrier signal transported using a first protocol;

a plurality of outputs for transmitting a plurality of trib signals using a second protocol;

means for demultiplexing said supercarrier signal into said trib signals; and

means for extracting messaging information, ~~required~~ sufficient to recreate the supercarrier signal from the trib signals after transmission, according to said first protocol, from the supercarrier signal and inserting said messaging information into the trib signals.

11. (Previously Presented) A transparent multiplexer comprising:

an output for transmitting a supercarrier signal using a first protocol;
a plurality of inputs for receiving a plurality of trib signals transported using a second protocol;
means for multiplexing said trib signals into said supercarrier signal; and
means for extracting messaging information from the trib signals and using said messaging information to recreate the supercarrier signal from the trib signals after transmission, according to said first protocol.

12. (Previously Presented) A network span comprising a plurality of low bit rate network sections, the network span having a first end terminated by a transparent demultiplexer and a second end terminated by a transparent multiplexer, wherein:

the transparent demultiplexer comprising:

a) an input for receiving a supercarrier signal transported using a first protocol;

b) a plurality of outputs for transmitting a plurality of trib signals using a second protocol;

c) means for demultiplexing said supercarrier signal into said trib signals; and

d) means for extracting messaging information, required to maintain said first protocol, from the supercarrier signal and inserting said messaging information into the trib signals; and

the transparent multiplexer comprising:

e) an output for transmitting a supercarrier signal using a first protocol;

f) a plurality of inputs for receiving a plurality of trib signals transported using a second protocol;

g) means for multiplexing said trib signals into said super carrier signal; and

h) means for extracting messaging information from the trib signals and using said messaging information to maintain said first protocol.

13. (Canceled)

14. (Original) The network span as claimed in claim 12, wherein the plurality of low bit rate network sections provide parallel communications paths.

15. (Currently Amended) An optical communication network arranged to support, using a first protocol, the carriage of a supercarrier signal including messaging information through the optical communication network, the optical communication network further including:

- a network span comprising at least one low bit rate network section for transporting a plurality of trib signals using a second protocol;

- a transparent demultiplexer connected to said network span for demultiplexing said supercarrier signal into said trib signals; and

- wherein said demultiplexer includes means for inserting into said plurality of trib signals the messaging information required sufficient to recreate the supercarrier signal from the trib signals after transmission, according to said first protocol.

16. (Currently Amended) The optical communication network of claim 14-15, wherein the optical communication system is in the form of a loop.

17. (Currently Amended) The optical communication network of claim 14-15, wherein the network span comprising a plurality of low bit rate network sections providing parallel communications paths across the network span.

18. (Currently Amended) A transparent demultiplexer comprising:

- an input for receiving a supercarrier signal transported using a first protocol;

- a plurality of outputs for transmitting a plurality of trib signals using a second protocol;

- a demultiplexer for demultiplexing said supercarrier signal into said trib signals; and

- an overhead processor for extracting messaging information, required sufficient to recreate the supercarrier signal from the trib signals after transmission,

according to said first protocol, from the supercarrier signal and inserting said messaging information into the trib signals.

19. (Previously Presented) A transparent multiplexer comprising:

- an output for transmitting a supercarrier signal using a first protocol;**
- a plurality of inputs for receiving a plurality of trib signals transported using a second protocol;**
- a multiplexer for multiplexing said trib signals into said supercarrier signal; and**
- an overhead processor for extracting messaging information from the trib signals and using said messaging information to recreate the supercarrier signal from the received trib signals, according to said first protocol.**

20. (Currently Amended) A component for a transparent demultiplexer comprising software arranged to control the demultiplexer to:

- receive a supercarrier signal transported using a first protocol;**
- transmit a plurality of trib signals using a second protocol;**
- demultiplex said supercarrier signal into said trib signals; and**
- extract from the supercarrier signal messaging information, ~~required~~ sufficient to recreate the supercarrier signal according to said first protocol, from the trib signals after transmission, and insert said messaging information into the trib signals.**

21. (Previously Presented) A component for a transparent multiplexer comprising software arranged to control the multiplexer to:

- transmit a supercarrier signal using a first protocol;**
- receive a plurality of trib signals transported using a second protocol;**
- multiplex said trib signals into said supercarrier signal; and**
- extract messaging information from the trib signals and use said messaging information to recreate the supercarrier signal from the trib signals after transmission, according to said first protocol.**